



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,380	10/08/2003	Mohamad Nourmohamadian	ULTERA.009A	6129
28222	7590	11/15/2005	EXAMINER	
MCLEAN MAYO, KIMBERLY N				
ART UNIT		PAPER NUMBER		
2187				

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/682,380	NOURMOHAMADIAN ET AL.
	Examiner Kimberly N. McLean-Mayo	Art Unit 2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 October 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 6-14 is/are rejected.
- 7) Claim(s) 2-5 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 08 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/17/05</u> .	6) <input type="checkbox"/> Other: _____.

### **DETAILED ACTION**

1. The enclosed detailed action is in response to the Information Disclosure Statement submitted on November 22, 2004 and the Application submitted on October 8, 2003.

#### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 6-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Basham (USPN: 6,785,078).

Regarding claim 6, Basham discloses a data portion of disk storage formatted as a tape volume (C 7, L 22-33); a plurality of application programs in communications with the disk storage (C 7, L 1-16; Basham discloses a multiple host system, wherein tape application programs [programs that read and/or write the tape storage device] stored on the hosts may access the random access storage device concurrently via the hosts [each host is controlled by its internal code and thus when the code wants to access the tape storage it effectuates a read and or write request thereto using the host system]. Basham system thereby allows multiple application programs to concurrently access the random access storage device as a sequential access tape storage); and a plurality of pointers (Figure 6, index Reference 410; C 9, L 8-45); each independently indicating tape block positions within the tape volume ([the tape volume is divided into partitions and the partitions contain data segments [C 6, L 66-67; C 7, L 1], wherein the data segments comprise tape blocks [C 8, L 55-58]], the application programs corresponding to the pointers so as to enable the application programs to concurrently access the tape volume (C 7, L 1-16; when a partition region is locked due to an application program accessing such region, the application program corresponds to the pointer so as to enable concurrent access to the tape volume; the locking of the region prevents access to that region but allows access from another application program to another unlocked region).

Regarding claim 7, Basham discloses a virtual tape drive adapted to emulate a physical tape drive to the application programs (C 7, L 22-33), wherein the tape volume is mountable in the virtual tape drive (C 5, L 15-34; C 6, L13-22).

Regarding claim 8, Basham discloses a plurality of initiators (hosts) associated with the pointers and the application programs associated with the initiators (the application programs are stored and executed by the initiators and thus are associated with the initiators).

Regarding claim 9, Basham discloses each initiator targeting the virtual tape drive (C 7, L 1-16).

Regarding claim 10, Basham discloses providing disk storage (C 4, L 56-62; C 5, L 15-17); defining a virtual tape volume on the disk storage (C 7, L 22-33); associating the virtual tape volume with a virtual tape drive (the virtual tape volume is mapped within the virtual tape drive and this is associated therewith) and concurrently communicating tape formatted data between the virtual tape drive and a plurality of application programs (C 7, L 1-16; Basham discloses a multiple host system, wherein tape application programs [programs that read and/or write the tape storage device] stored on the host may access the random access storage device concurrently via the host [the host is controlled by its internal code and thus when the code wants to access the tape storage it effectuates a read and or write request thereto using the host system]. Basham system thereby allows multiple application programs to concurrently access the random access storage device as a sequential access tape storage).

Regarding claim 11, Basham discloses defining a virtual tape drive target (C 6, L 10-22, L 45-58; the removable random access storage drive mounted in the library is defined by a virtual address region) and providing the application programs concurrent access to the virtual tape volume through the virtual tape drive target (C 7, L 1-16).

Regarding claim 12, Basham discloses providing a plurality of initiators (hosts) associated with the application programs and establishing communications between each of the initiators and the virtual tape drive target so as to access the virtual tape volume data concurrently (C 6, L 10-22, L 45-67; C 7, L 1-16).

Regarding claim 13, Basham discloses defining a plurality of virtual tapes drive targets (LUN; C 5, L 47-67; C 6, L 1-9); and providing the application programs concurrent access to the virtual tape volume through the virtual tape drive targets (C 7, L 1-16).

Regarding claim 14, Basham discloses associating each of the application programs with a corresponding different one of the virtual tape drive targets so as to access the virtual tape volume concurrently (C 7, L 1-16; an application program corresponds to the host executing the program and the host is associated with a virtual tape drive target [accessor path], thus the application program is associated with one of the virtual tape drive targets via the host's association with one of the virtual tape drive targets).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basham (USPN: 6,785,078) in view of Bitner (PGPUB: US 2004/0153614).

Regarding claim 1, Basham discloses a multiple-host system adapted to execute a plurality of tape application programs (Figure 3, References 310 and 312); a random access storage device (C 4, L 56-67; C 5, L 15-28); and a controller providing communications between the at least one server and the random access storage device (Figure 3, Reference 35; C 5, L 43-47); the controller configured so that the application programs can concurrently access the random access storage device as a sequential access tape storage (C 7, L 1-16 [concurrent access], L 22-33 [tape format]). Basham does not disclose at least one server adapted to execute a plurality of tape application programs. However, Bitner discloses at least one server adapted to execute a plurality of tape application programs [section 0011]. The system taught by Bitner uses a server to interface to a heterogeneous host system. The host system initiates the tape commands [via software], as does Basham's system, and the server responds by initiating the commands to the virtual tape storage as if the host sent it directly. Bitner's system provides flexibility by allowing different host to interface to the virtual tape storage over a network via the server. Basham discloses a multiple host system, wherein tape application programs [programs that read and/or write the tape storage device] stored on the host may access the random access storage device concurrently via the host [the host is controlled by its internal code and thus when the code wants to access the tape storage it effectuates a read and or write request thereto using the host system]. Basham system thereby allows multiple application programs to concurrently access the random access storage device as a sequential access tape storage. Basham's system does not use a server because the system does not operate over a network. However, it would have been obvious to

one of ordinary skill in the art to use Basham's system in a network environment to provide flexibility by providing an interface [server] among host located in different locations and comprised of different operating systems and hardware.

***Allowable Subject Matter***

7. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

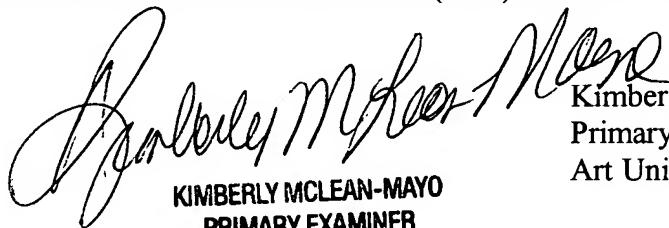
Pisello – USPN: 5,454,098 – emulating access to a sequential access storage device using a random access storage device.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 571-272-4194. The examiner can normally be reached on Mon (10-4), Tues, Thu (10-2), Fri (10-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KNM



KIMBERLY MCLEAN-MAYO  
PRIMARY EXAMINER

Kimberly N. McLean-Mayo  
Primary Examiner  
Art Unit 2187

October 17, 2005